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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,796	09/29/2006	Barry W. Townsend	183.43731AX0	7124
20457 7590 12/22/2010 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
BLANCO, JAVIER G				
ART UNIT		PAPER NUMBER		
3774				
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12/22/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,796

Applicant(s)

TOWNSEND ET AL.

Examiner

JAVIER G. BLANCO

Art Unit

3774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-16, 24 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-23, 25-28, 30, and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicants' amendment of claims 17, 25, and 28 in the reply filed on October 28, 2010 is acknowledged.
2. Applicants' addition of claim 31 in the reply filed on October 28, 2010 is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 17-20, 25, 26, 28, and 30 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Atkinson et al.** (US PG Pub No 2002/0087216 A1; cited in Applicants' IDS). Referring to Figures 11, 12, and 20, **Atkinson et al.** disclose a resilient lower extremity prosthesis comprising:

- a. A foot (Figures 11/12: keel 454; Figure 20: keel 754) extending in a longitudinal direction;
- b. A resilient ankle (Figures 11/12: ankle 412; Figure 20: ankle 712);
- c. An elongated, upstanding, resilient shank (Figures 11/12: upper leg 414 and/or pylon 452; Figure 20: upper leg 714 and/or pylon 752) above the ankle; wherein the ankle and shank are formed as a resilient member, the shank extending upward in a substantially curvilinear manner above the ankle and flexing in the longitudinal direction during gait for storing and releasing energy to improve dynamic response of the prosthesis in gait;

d. An artificial muscle (Figures 11/12: visco-elastic cord 486; Figure 20: visco-elastic belt/strap 786) provided on at least one of the foot, ankle and shank of the prosthesis for storing energy during force loading of the prosthesis in the active propulsion phase of a person's gait and in the later stages of stance-phase of gait releasing said energy to aid propulsion of the person's trailing limb and body.

Regarding claim 18, at least see paragraphs 0095, 0096, and 0118.

Regarding claims 19 and 20, the means for adjusting are cam 490/492 and/or pads 496 (Figures 11 and 12), and pad 806 (Figure 20).

Regarding claims 25 and 26, see Figures 9, 10, 11, and 20.

Regarding claim 28, see listing of materials in paragraphs 0094 and 118.

Regarding claim 30, see Figure 20.

5. Claims 17-23, 25-27, and 30 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Fikes** (US 4,911,724; cited in Applicants' IDS).

Referring to Figures 1A, 2A, and 4-6, **Fikes** discloses a resilient lower extremity prosthesis comprising:

- a. A foot (30) extending in a longitudinal direction;
- b. A resilient ankle (ankle of foot 30 and/or base member 12);
- c. An elongated, upstanding, resilient shank (11) above the ankle; wherein the ankle and shank are formed as a resilient member, the shank extending upward in a substantially curvilinear manner above the ankle and flexing in the longitudinal direction during gait for storing and releasing energy to improve dynamic response of the prosthesis in gait;

d. An artificial muscle (64, 66, and/or 68) provided on at least one of the foot, ankle and shank of the prosthesis for storing energy during force loading of the prosthesis in the active propulsion phase of a person's gait and in the later stages of stance-phase of gait releasing said energy to aid propulsion of the person's trailing limb and body.

Regarding claim 18, the artificial muscle is preloaded in tension.

Regarding claims 19 and 20, see bladder 60.

Regarding claims 21-23 and 27, see Figure 1A ("artificial muscle" 34A), Figure 4 ("artificial muscle(s)" 64), and Figure 6 ("artificial muscle(s)" 64).

Regarding claims 25 and 26, see Figures 4 and 5 showing "artificial muscles" 66 and 68 provided on said resilient member.

Regarding claim 30, see Figure 4.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over either **Atkinson et al.** (US PG Pub No 2002/0087216 A1; cited in Applicants' IDS) or **Fikes** (US 4,911,724; cited in Applicants' IDS).

Each of **Atkinson et al.** '216 and **Fikes** '724 disclose the invention as claimed except for particularly disclosing the artificial muscle as formed at least in part of an electro-active

polymer-based material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used an artificial muscle formed at least in part of an electro-active polymer-based material with the prosthetic foot of either **Atkinson et al.** '216 or **Fikes** '724, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

8. Applicant's arguments filed October 28, 2010 have been fully considered but they are not persuasive.

a. Regarding **Atkinson et al.** '216, the Applicants argue "the shank above the ankle is reversely curved into a posterior facing convexly curved member". The "shank extending upward in a substantially anterior facing convexly curvilinear manner above the ankle" is broadly interpreted to be the convexly curved portion of pylon 452 (or 752), which is anterior facing. Said portion is not reversely curved, and it is located above the ankle.

b. Regarding **Fikes** '724, the Applicants argue "Fikes does not have an ankle with a posterior terminal end with a substantially anterior facing convexly curvilinear shank". Looking at Figure 4, the "ankle" (i.e., bottom part of the shank) has a convex curvature that faces anteriorly. Further, said ankle has a posterior corner that is broadly interpreted to be the "posterior terminal end". Notice the entire length of the shank is anterior facing convexly curved.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javier G. Blanco whose telephone number is 571-272-4747. The examiner can normally be reached on M-F (9:00 a.m.-7:00 p.m.), first Friday of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on (571)272-4749. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Javier G. Blanco/

Examiner, Art Unit 3774

/David H Willse/

Primary Examiner, Art Unit 3738